Ù.S.S.N.:

10/786,965 Filing Date: February 25, 2004

EMC Docket No.: EMC-02-132CIP1

## In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application.

## **Listing of Claims:**

1. (Currently amended) A method for simulating performance on one or more data storage systems, the method comprising the steps of:

receiving utilization data related to the utilization of one or more data storage systems;

receiving performance characteristics of work performed on the one or more data storage systems; and

simulating performance on the one or more data storage systems using the utilization data and performance characteristics and that of a system including said one or more data storage systems;

determining whether said performance of the one or more data storage systems exceeds a corresponding level of performance or the system including said one or more data storage systems exceeds a corresponding level of performance, wherein said level of performance is associated with at least one element selected from the group consisting of: a required utilization, a response time, and a workload;

indicating which of said one or more data storage systems are causing the excessive level of performance; and

altering a configuration of at least one of said one or more data storage systems to sustain the simulated performance at a given level, wherein said altering includes adding at least one additional data storage system to said one or more data storage systems causing the excessive

Applicant: Aharoni, et al. 10/786,965

U.S.S.N.:

Filing Date: February 25, 2004

EMC Docket No.: EMC-02-132CIP1

7. (Original) The method of claim 5, wherein the one or more source data storage systems or

the target data storage system is configured to be at least partially optimized for performance in

accordance with information yielded from the step of simulating performance on the one or more

data storage systems.

8. (Currently amended) A system for simulating performance activity on one or more data

storage systems, the system comprising:

a computer having a memory and a display;

computer-executable program code operating in memory, wherein the computer-

executable program code is configured for execution of the following steps:

receiving utilization data related to the utilization of one or more data storage systems;

receiving performance characteristics of work performed on the one or more data storage

systems; and

simulating performance on the one or more data storage systems using the utilization data

and performance characteristics; and that of a system including said one or more data storage

systems;

determining whether said performance of the one or more data storage systems exceeds a

corresponding level of performance or the system including said one or more data storage

systems exceeds a corresponding level of performance, wherein said level is associated with at

least one element selected from the group consisting of: a required utilization, a response time,

and a workload;

5

U.S.S.N.:

10/786,965

Filing Date: February 25, 2004

EMC Docket No.: EMC-02-132CIP1

indicating which of said one or more data storage systems are causing the excessive level

of performance; and

altering a configuration of at least one of said one or more data storage systems to sustain

the simulated performance at a given level, wherein said altering includes adding at least one

additional data storage system to said one or more data storage systems causing the excessive

level of performance, and optimizing individually front end and back end performance of each of

said one or more data storage system.

(Original) The system of claim 8, wherein the program code is further configured for

performing a storage management function after performing the step of simulating performance

on the one or more data storage systems.

10. (Original) The system of claim 9, wherein the storage management function is a

performance modeling function.

11. (Original) The system of claim 9, wherein the storage management function is a storage

capacity planning function.

12. (Original) The system of claim 9, wherein the storage management function is a

consolidation of one or more data storage systems that may be denominated as one or more

source data storage systems into one other data storage system that may be denominated as a

target data storage system.

6

Applicant: Aharoni, et al. 10/786,965

U.S.S.N.:

Filing Date: February 25, 2004

EMC Docket No.: EMC-02-132CIP1

13. (Original) The system of claim 12, wherein the one or more source data storage systems or

the target data storage system is configured to be load balanced in accordance with information

yielded from the step of simulating performance on the one or more data storage systems.

14. (Original) The system of claim 12, wherein the one or more source data storage systems or

the target data storage system is configured to be at least partially optimized for performance in

accordance with information yielded from the step of simulating performance on the one or more

data storage systems.

15. (Currently amended) A program product for simulating performance activity on one or

more data storage systems, the program product including a computer readable medium with

computer-executable program code configured for causing the following computer-executed

steps to occur:

receiving utilization data related to the utilization of one or more data storage systems;

receiving performance characteristics of work performed on the one or more data storage

systems; and

simulating performance on the one or more data storage systems using the utilization data

and performance characteristics; and that of a system including said one or more data storage

systems;

determining whether said performance of the one or more data storage systems exceeds a

corresponding level of performance or the system including said one or more data storage

7

U.S.S.N.:

10/786,965 Filing Date: February 25, 2004

EMC Docket No.: EMC-02-132CIP1

systems exceeds a corresponding level of performance, wherein said level is associated with at

least one element selected from the group consisting of: a required utilization, a response time,

and a workload;

indicating which of said one or more data storage systems are causing the excessive level

of performance; and

altering a configuration of at least one of said one or more data storage systems to sustain

the simulated performance at a given level, wherein said altering includes adding at least one

additional data storage system to said one or more data storage systems causing the excessive

level of performance and optimizing individually front end and back end performance of each of

said one or more data storage system..

16. (Original) The program product of claim 15, wherein the program code is further configured

for performing a storage management function after performing the step of simulating

performance on the one or more data storage systems.

17. (Original) The program product of claim 16, wherein the storage management function is a

performance modeling function.

18. (Original) The program product of claim 16, wherein the storage management function is a

storage capacity planning function.

U.S.S.N.:

10/786,965 Filing Date: February 25, 2004

EMC Docket No.: EMC-02-132CIP1

19. (Original) The program product of claim 16, wherein the storage management function is a

consolidation of one or more data storage systems that may be denominated as one or more

source data storage systems into one other data storage system which may be denominated as a

target data storage system.

20. (Original) The program product of claim 19, wherein the one or more source data storage

systems or the target data storage system is configured to be load balanced in accordance with

information yielded from the step of simulating performance on the one or more data storage

systems.

21. (Original) The program product of claim 19, wherein the one or more source data storage

systems or the target data storage system is configured to be at least partially optimized for

performance in accordance with information yielded from the step of simulating performance on

the one or more data storage systems.